401 KAR 61:060. Existing sources using organic solvents.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Natural Resources
Division of Air Pollution

Relates to: KRS Chapter 224
Pursuant to: KRS 13.082, 224.033
Necessity and Function: KRS 224.033 requires the Department for Natural Resources and Environmental Protection to prescribe regulations for the prevention, abatement, and control of air pollution. This regulation provides for the control of emissions from existing sources using any organic solvents.

Section 1. Applicability.

(1) The provisions of this regulation shall apply to any affected facility:
  (a) Located in a Priority I Region for photochemical oxidants which commenced before the classification date defined below;

  (b) Located in a Priority III Region for photochemical oxidants which commenced before the classification date defined below but on or after April 9, 1972.

(2) The provisions of this regulation shall not apply to:
  (a) The manufacture of organic solvents or the transport, loading, or storage of organic solvents or materials containing organic solvents;

  (b) The spraying or other employment of insecticides, pesticides, or herbicides;

  (c) The employment, application, evaporation or drying of saturated halogenated hydrocarbons or perchlorethylene;

  (d) The use of any material in affected facility described in subsection (1) of this section if the volatile content consists of non-photochemically reactive solvent comprising not more than thirty (30) percent by volume of the material as applied;

  (e) The use of any material in any affected facility described in subsection (1) of this section if the volatile content consists only of water and non-photochemically reactive solvent and the solvent comprises not more than twenty (20) percent of said volatile content by volume as applied;

  (f) The use of equipment for which other requirements are specified by are regulations of the Division of Air Pollution or which are exempt from air pollution control requirements;

  (g) The emergency release of organic material due to over pressurization provided that the vents are equipped with self-closing pressure relief valves or equivalent devices. Rupture discs are not acceptable as pressure relief valves.

Section 2. Definitions.
As used in this regulation, all terms not defined herein shall have the meaning given them in 401 KAR 50:010.

(1) "Affected facility" means any article, machine, equipment, or other contrivance used for employing or applying:

  (a) Any organic solvent which is photochemically reactive or material

containing such photochemically reactive solvent; or

(b) Any organic solvent, regardless of photochemical reactivity, which is baked, heat-cured, or heat polymerized in the presence of oxygen;

(2) "Organic materials" means chemical compounds of carbon excluding, methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, and ammonium carbonate;

(3) "Organic solvents" means organic materials which are liquids at standard conditions and which are used as dissolvers, viscosity reducers, cleaning agents, diluents, or thinners, except that such materials which exhibit a boiling point higher than 220 Fahrenheit at 0.5 millimeters mercury absolute pressure or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 220 degrees Fahrenheit;

(4) "Photochemically reactive solvent" means any solvent with an aggregate of more than twenty (20) percent of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations, referred to the total volume of solvent;

(a) A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cyclo-olefinic type of unsaturation; five (5) percent;

(b) A combination of aromatic compounds with eight (8) or more carbon atoms to the molecule except that ethylbenzene; eight (8) percent;

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene; twenty (20) percent;

(d) When any organic solvent or any constituent of an organic solvent may be classified by its chemical structure into more than one (1) of the above groups of organic compounds it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

(5) "Classification date" means the effective date of this regulation.

Section 3. Standard for Organic Material.

(1) No person shall discharge into the open air, from any affected facility using organic solvents more than forty (40) pounds of organic material in any one (1) day, nor eight (8) pounds in any one (1) hour unless said emissions have been reduced by at least eighty-five (85) percent by weight.

(2) Those portions of any series of affected facilities designed for processing a continuous web, strip or wire which emit organic materials shall be taken collectively from air or heated drying of products for the first twelve (12) hours after their removal from an affected facility shall be included in determining compliance with this section. Further, emissions of organic material to the facility shall be included with other emissions of organic materials from that affected facility for determining compliance with this regulation.

(3) Emissions of organic materials into the atmosphere required to be controlled by subsections (1) and (2) of this section shall be reduced by:

(a) Incineration, provided that ninety (90) percent or more of the carbon in the organic material discharged from an affected

facility is oxidized to carbon dioxide;

(b) Adsorption; or

(c) Modifying processing procedures, equipment and/or materials in such a manner so as to achieve no less than the degree of control of organic solvents required. The implementation of such modifications in lieu of compliance with subsections (1) and (2) of this section shall require the express prior approval of the department.

(4) A person incinerating, adsorbing, or otherwise processing organic materials pursuant to this section shall provide, properly install and maintain in calibration, in good working order and in operation, devices as specified in the permit to construct or the permit to operate, or as specified by the department, for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree and effectiveness of air pollution control.

(5) Any person using organic solvents or any material containing organic solvents shall supply the department, upon request and in the manner and form prescribed, written evidence of the chemical composition, physical properties and amount consumed for each organic solvent used.

(6) The owner or operator of an affected facility may apply to the department for approval of an emissions reduction plan as an alternative to the standards set forth in subsection (1) of this section. The department may approve the application if the owner or operator demonstrates:

(a) That compliance with the standards contained in subsection (1) of this section is technically or economically infeasible; and

(b) That any emissions in excess of those allowed for the affected facility will be compensated by reducing emissions from other facilities at the source below the allowable organic material emissions from other facilities at the source below the allowable organic material emission rates or by reducing emissions of organic material from non-regulated facilities within the source.

(7) The plan of emissions reduction approved pursuant to subsection (6) of this section shall be included as a condition to permit to operate the source and shall be approved by the U.S. Environmental Protection Agency.

Section 4. Compliance.

(1) In all cases the design of any control system is subject to approval by the department.

(2) Compliance with the standard in Section 3 shall be demonstrated by a material balance except in those cases where the department determines that a material balance is not possible. For those cases where a material balance is not possible, compliance will be determined based on engineering analysis by the department of: the control system design, control device efficiency, control system capture efficiency and any other factors that could influence the performance of the system. If so requested by the department, performance tests as specified by the department shall be conducted in order to determine the efficiency of the control device.

Effective Date: June 29, 1979

	Date Submitted to EPA	Date Approved by EPA	Federal Register
Original Reg	JUN 29, 1979	JAN 25, 1980	45 FR 6092